

DEVELOPMENT AND VALIDATION OF STUDENTS' STRESS RATING SCALE (SSRS)

M.BALAMURUGAN

TEACHING CUM RESEARCH FELLOW
DEPARTMENT OF EDUCATION
UNIVERSITY OF MADRAS

Dr.D.KUMARAN

PROFESSOR AND HEAD
DEPARTMENT OF EDUCATION
UNIVERSITY OF MADRAS

ABSTRACT

Each and every person is under the grip of stress. Starting from a two-year infant to an adult, stress takes an entry in different forms but it alters the normal functioning of a person. One cannot eliminate stress but can reduce stress in their life. The stressors are normative demands and critical life events. Normative stressors include appearance, school grades, employment, relationships, educational plans, careers, personal health, self-esteem etc. Others include lack of social resources, relationship with peers, family and altruistic issues like poverty, gender inequality etc. The stressors are responsible for low self-esteem among adolescent students, increase in antisocial behaviour, rise in anxiety, drug abuse and even to the extent of suicide. In order to provide comprehensive measurement of stress experienced by students in general and higher secondary students in particular, the investigator and his supervisor had developed Students' Stress Rating Scale (SSRS). The tool was developed through factor analysis, which consists of 35 items and were grouped under five factors namely Physiological, Emotional, Social, Examination and Behavioural Stress.

1. INTRODUCTION

Stress is a normal universal human experience and a routine part of human lives. It is a normal reaction to difficult situations or an uncertain environment, but becomes a problem when environmental demands exceed a person's adaptive capacity to cope. These environmental demands are seen as a threat to the well-being of a person when they are not certain about their physical, emotional, and psychological ability to deal with the events. Stress is the physical reaction of the human body that prepares an individual to meet life's threatening situations and to fight back. This "fight or flight" response is inherited from the "cave person" who had to fight wild beasts or flee from physical dangers in order to survive. Today, many situations or events that do not require a physical response trigger stress response, including intellectual, social and recreational ones. These external situations or events are called stressors. Stress is not pressure from the outside but the way human beings react to what are going on around them.

The term "stress" was first used by Hans Selye, a professor at McGill University, in 1936. He has defined stress as a "non-specific response of the body to a demand." The total effect of the biological reactions to any adverse stimulus, physical, mental or emotional, internal or external, that tends to disturb a person's normal state of well-being may be termed as stress.

2. STRESS IN STUDENTS

The first and foremost stress in students is created by parental or family pressure to perform and to stand out among other children. When they cannot rise up to that expectation, or during the process of meeting it, children may suffer from frustration, physical stress, aggression, undesirable complexes, and depression. Students who are under-performers, develop negative traits such as shyness, unfriendliness, jealousy, and may retreat into their own world to become loners.

Over scheduling a student's life can also put them under stress. A child's in-school and after-school activities should be carefully arranged to give them some breathing space. Parents may want him to learn music, painting, or be outstanding in a particular sport. So many things are crammed into their schedule, unmindful (often) of the children's choices and capabilities, that puts a lot of mental pressure on them in an effort to fulfill their parents' wishes.

School systems cram students with a tremendous amount of homework, which they usually have to complete spending their evenings, weekends and most of the vacations. Unable to find enough time of their own, students often lose interest in studies and under perform. They often feel stress by being asked to do too much in too little a time. Teenage depression or growing up tensions adds to the academic pressures. If unable to adapt to the transition and change, students often carry enormous amount of anxiety, negative personal traits and suffer from massive attention problems. When 'effortless' learning does not take place, these students lose confidence, motivation and interest, and they create more stress.

Difficult classes, poor time management, work overload, poor study skills, commuting to school, examinations and revision, difficulties with family members, dissatisfaction with course, poor relationship with tutors, significant people's expectations, fear of failure, financial difficulties, feelings of inadequacy, fear of unknown assessments, unsatisfactory accommodation, friends, roommates, poor communication skills, body image, diet and nutrition, lack of exercise, serious illness, death or tragedy in family etc. also significantly cause stress in students.

3. FACTORS OF STRESS

Factors of stress generally fall into four categories: physical, emotional, social and behavioural. However in the student's life, examination also has a great impact, thus examination is considered as fifth factor in the study. Many of these factors come and go as a result of short-term stress. However, factors that are associated with more long-term, sustained stress can be harmful. Consequences can include fatigue, poor morale and ill health. High levels of stress without intervention or management can contribute to mental health problems (e.g. depression, anxiety, interpersonal difficulties etc.), Behavioural changes (e.g. drug abuse, restlessness, appetite disorders etc.) and sometimes involve medical consequences (e.g. headaches, bowel problems, heart disease, etc.).

3.1. Physical, Physiological or Psychosomatic factors

Physical factors that an individual experiencing stress or tension are getting tired very easily, muscle tension, palpitations– a pounding heart or an accelerated heart rate, sweating (cold sweat) or hot flushes, shallow or erratic breathing, a feeling of being choked or a smothering sensation with pain in the chest, nausea or abdominal distress, feeling numb or experiencing tingling sensations in certain parts of the body, experiencing a dry mouth and the urge to swallow repeatedly, diarrhoea, impotence or an excessive need for sex, asthma, feeling dizzy, unsteady, lightheaded or faint, headaches, constipation, shoulder or back pains, sleep disturbances, weight loss etc.

3.2. Emotional factors

The emotional factors indicating stress or tension are: feeling depressed and downhearted sometimes, feeling detached from oneself, fear of losing control or going crazy, fear of dying, intense apprehension, fearfulness or terror (often associated with feelings of impending doom), increased irritability or anger, anxiety or feelings of panic, tearfulness, increased interpersonal conflicts etc.

3.3. Social factors

The social factors of stress or tension are: problems in family acceptance, not sharing with others, feeling of loneliness, problems in the recreational activities etc.

3.4. Examination factors

Various situations directly or indirectly related to examinations, tests, academic or curricular activities, performances or competitions may cause stress in students and these can be collectively be classified under examination factors.

3.5. Behaviourial factors

The behavioural factors of stress or tension are: restlessness (feeling keyed up or on edge), trembling or shaking, short-temperedness, withdrawal from interpersonal interaction, excessive smoking, sleeping and/or drinking, sleep disturbances (finding it difficult to fall asleep or experiencing nightmares, sleeping excessively or disturbed sleep waking up tired), not feeling hungry or eating excessively, slow psychomotor co-ordination, rushing around, working longer hours, losing touch with friends, fatigue, weight loss etc.

4. DEVELOPMENT OF THE TOOL

The items were framed by referring to the authors cited in the forgoing pages, few statements through review of literature on the subject and also by discussions with experts in the field. These sources have provided the base for the development of tools. Before constructing the tools, theoretical constructs were formed consisting of the

hypothetical factors. In Students' Stress Rating Scale (SSRS), there were five hypothetical factors namely Physiological, Intellectual, Emotional, Examination and Behavioural Stress. An item conveying the idea most clearly was retained, and the language of item was made simple and suitable to express the concept implied. This process of scrutiny and evaluation finally yielded 40 statements for the SSRS.

4.1. Expert Evaluation of Items

In order to establish the validity of the tool, the items were subjected to Jury technique. The experts were drawn from the field of Education and Psychology. The items of SSRS were to be rated under seven categories of responses (Every day, Once in 2/3 days, Once in a week, Once in fortnight, Once in a month, Rarely and Never) to indicate the frequency of occurrence of a particular stress.

4.2. Preliminary Try-Out

The items were arranged in random order and administered to a sample of 30 students to check their applicability. The students were encouraged to express their doubts freely. Necessary modifications were made with the experience gained through this preliminary try-out.

4.3. Pilot Study

The preliminary form used for the pilot study contained 40 items. For the pilot study, 160 students were selected from different schools managed by Government, Corporation, Private Aided and Private Unaided in Thiruvallur district. Proper instructions were given before the administration of the scale. The subjects were asked to respond to all the statements and no time limit was imposed. During the time of administration of the scale the investigator gave proper assistance and directions whenever and wherever necessary.

4.4. Collection of Data

The investigator contacted the Principal of the selected schools and permission was obtained. The investigator requested Class XI students to fill the scale. The time taken by the students for filling in this scale was around 15 minutes.

4.5. Sample and Sampling Technique

Population of the present study was the Class XI students of Thiruvallur District. The data were collected from a sample from 523 students drawn randomly from ten schools in Thiruvallur District.

4.6. Item Analysis

For selecting the valid items required for the final study, item-total correlation coefficients were calculated. From the results shown in the Table 1, it is clear that the

item-total correlation coefficients of the items in Students' Stress Rating Scale (SSRS) ranged from -0.294 to 0.522. Then it was decided to select items which are significant at 0.001 level with $r \geq 0.30$. Ultimately 35 items out of 40 were selected for SSRS.

4.7. Factor Analysis

In order to identify the factors of Students' Stress Rating Scale (SSRS), Factor analysis was performed. The results of Factor Analysis (Principal Components Analysis with Varimax Rotation and forced solution of five factors was executed) are also presented in Table.1. Finally it was decided to select the items with factor loading 0.3 and above. As per the criteria, 35 items of Students' Stress Rating Scale were grouped under five factors. The factors were given the names with due consideration to the nature and tone of the items under each factor.

5. DESCRIPTION OF THE STUDENTS' STRESS RATING SCALE (SSRS)

Students' Stress Rating Scale (SSRS) shown in Table 2, is a seven-point scale with 35 items. The students were requested to give responses based on the frequency of experiencing a particular stress against seven options given namely, 1) Everyday 2) Once in 2/3 days 3) Once in a week 4) Once in fortnight 5) Once in a month 6) Rarely and 7) Never. The items are given under five factors viz Physiological, Emotional, Social, Examination and Behavioural Stress. These factors comprised 11, 7, 7, 6 and 4 items respectively.

6. RELIABILITY AND VALIDITY OF THE TOOL

In order to establish the reliability of the tool the Cronbach Alpha Coefficient was calculated for SSRS. It was calculated to be 0.87. The Intrinsic Validity Coefficient of the tool was established by taking the square root of reliability coefficients, which was found to be 0.93. Thus from these two coefficients it can be inferred that the tool is highly reliable and valid.

7. CONCLUSION

Stress in students has a great impact in their lives. If not understood, measured and managed properly this may be continued as everlasting problem. The students' stress rating scale (SSRS) provides the comprehensive measurement of higher secondary students' stress. However this scale can be used to the students studying at any level of education.

TABLE 1.
ITEMS SELECTED FOR STUDENTS' STRESS RATING SCALE

Item No.	r value	Level of Significance	Whether Selected	Factor Loadings	Factor
1	0.178	0.01	No	-	-
2	0.334	0.001	Yes	0.385	V
3	0.42	0.001	Yes	0.468	V
4	0.459	0.001	Yes	0.361	III
5	0.349	0.001	Yes	0.541	III
6	0.436	0.001	Yes	0.317	I
7	0.366	0.001	Yes	0.495	II
8	0.45	0.001	Yes	0.608	III
9	0.28	0.01	No	-	-
10	0.419	0.001	Yes	0.678	I
11	0.492	0.001	Yes	0.457	I
12	0.391	0.001	Yes	0.586	I
13	0.347	0.001	Yes	0.375	I
14	0.375	0.001	Yes	0.381	I
15	0.376	0.001	Yes	0.647	I
16	0.522	0.001	Yes	0.574	I
17	0.496	0.001	Yes	0.446	II
18	0.286	0.01	No	-	-
19	0.337	0.001	Yes	0.556	V
20	0.439	0.001	Yes	0.517	II
21	0.498	0.001	Yes	0.46	III
22	0.463	0.001	Yes	0.552	III
23	0.451	0.001	Yes	0.465	IV
24	0.382	0.001	Yes	0.4	V
25	0.399	0.001	Yes	0.685	IV
26	0.155	0.01	No	-	-
27	0.499	0.001	Yes	0.446	IV
28	0.409	0.001	Yes	0.692	IV
29	0.454	0.001	Yes	0.374	II
30	0.321	0.001	Yes	0.341	IV
31	0.442	0.001	Yes	0.446	II
32	0.493	0.001	Yes	0.566	II
33	0.495	0.001	Yes	0.454	IV
34	0.439	0.001	Yes	0.424	III
35	0.479	0.001	Yes	0.527	III
36	0.479	0.001	Yes	0.586	II
37	0.441	0.001	Yes	0.485	I
38	0.502	0.001	Yes	0.405	I
39	0.456	0.001	Yes	0.341	I
40	-0.294	0.01	No	-	-

TABLE 2.**STUDENTS' STRESS RATING SCALE (FINAL FORM)**

ED = Every Day, **OT** = Once in 2/3 Days, **OW** = Once In a Week,
OF = Once in Fortnight (15 days), **OM** = Once in a Month, **R** = Rarely, **N** = Never

S.N	FACTOR	STATEMENTS	E D	O T	O W	O F	O M	R	N
1	F V	I get angry.							
2	F V	I do not take proper rest.							
3	F III	I get irritated.							
4	F III	I do not share my misgivings (failures) with others.							
5	F I	I complain about the past.							
6	F II	I rush through the day.							
7	F III	I feel lonely.							
8	F I	I have the problem of constipation.							
9	F I	I get jealous of others.							
10	F I	I get viral infections.							
11	F I	I suffer from headaches.							
12	F I	I take long time to recover from illness.							
13	F I	I suffer from diarrhoea.							
14	F I	I find it difficult to sleep.							
15	F II	I have difficulty in concentrating on my studies.							
16	F V	I eat fast.							
17	F II	I worry about my future.							
18	F III	I can't find time to have fun to enjoy myself.							
19	F III	I cry or feel like crying.							
20	F IV	I feel restless when I have to take a surprise test / examination.							
21	F V	I talk fast.							
22	F IV	I get nervous when I forget points that I really know.							
23	F IV	I get depressed after taking an examination.							
24	F IV	My heartbeat increases during examinations.							
25	F II	I feel tired even though I had enough sleep.							
26	F IV	I do not maintain my body weight.							
27	F II	I feel stiffness or pain in my neck.							
28	F II	I have difficulty in remembering things.							
29	F IV	I become tensed with delays or interruptions.							
30	F III	I enjoy games only when I win.							
31	F III	No one understands me.							
32	F II	My parents scold me.							
33	F I	My teachers scold me.							
34	F I	I find myself think of consequences of failing in an examination.							
35	F I	I fail to see the humour in situations where others find funny.							

Note: Factor I – Physiological Stress, Factor II – Emotional Stress, Factor III – Social Stress, Factor IV – Examination Stress & Factor V – Behavioural Stress

BIBLIOGRAPHY

- Crean, Hugh F. (2004). "Social Support, Conflict, Major Life Stressors, and Adaptive Coping Strategies in Latino Middle School Students: An Integrative Model". *Journal of Adolescent Research*, Vol.19, No.6, (Nov 2004), pp. 657 - 676.
- DuBois, David L. et. al. (1992). "A Prospective Study of Life Stress, Social Support, and Adaptation in Early Adolescence". *Child Development*, Vol.63, No.3, (June 1992), pp. 542 - 557.
- Heins, Marilyn et. al. (1984). "Perceived Stress in Medical, Law, and Graduate Students". *Journal of Medical Education*, Vol.59, No.3, (Mar 1984), pp.169 - 179.
- Henderson, Phyllis A. et. al. (1992). "Effects of a Stress-Control Program on Children's Locus of Control, Self-Concept, and Coping Behavior". *School Counselor*; Vol. 40, No.2, (Nov 1992), pp.125 - 130.
- Kiselica, Mark S. et. al. (1994). "Effects of Stress Inoculation Training on Anxiety, Stress, and Academic Performance among Adolescents". *Journal of Counseling Psychology*, Vol.41, No.3, (July 1994), pp. 335 - 342.
- Murberg, Terje A. and Bru, Edvin. (2004). "School-Related Stress and Psychosomatic Symptoms among Norwegian Adolescents". *School Psychology International*, Vol.25, No.3, (Aug 2004), pp. 317 - 332.
- Pope, Denise Clarke and Simon, Richard. (2005). "Help for Stressed Students". *Educational Leadership*, Vol.62, No.7, (April 2005), pp. 33 - 37.
- Tatar, Moshe. (1995). "Parental Views of Popularity and Stress among Adolescents". *Journal of Adolescence*, Vol.18, No.6, (Dec 1995), pp. 679 - 686.
